What is claimed is:

1.   A method for illuminant compensation of an image including a face region comprising:

    determining a surface fitting based on the face region for the image;

    generating an illuminant corrected image using the surface fitting and the image; and

    normalizing the image.

2.   The method of claim 1, wherein the image includes a plurality of pixels, each having a color, and wherein the step of determining the surface fitting includes the substeps of:

    determining for each pixel whether the pixel's color is within a predetermined set of colors;

    determining the pixel to be part of the face region if it is determined that the pixel's color is within the predetermined set of colors; and

    determining a surface fitting for the image, wherein the surface fitting is determined using only the pixels that were determined to be part of the face region.

3.   The method of claim 1, wherein the step of determining whether the pixel's color is within a predetermined set of colors includes determining if the pixel's color is a skin color.

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4.   The method of claim 1, wherein the illuminant corrected image is generated by subtracting the surface fitting from the image.

5.   The method of claim 1, wherein the image includes a plurality of pixels each having a gray level, and wherein the step of normalizing the image, comprises the substeps of:

computing an average gray level for the plurality of pixels in the image;

computing a standard deviation of the gray level for the plurality of pixels in the image; and

transforming the gray level for each pixel of the plurality of pixels to a gray level between a predetermined range using the computed average gray level and the computed standard deviation.

6.   The method of claim 5, wherein the step of normalizing the image further comprises the substeps of:

determining for each of the plurality of pixels whether the pixel is part of the face region in the image;

wherein in the step of computing the average gray level for the plurality of pixels, only the pixels that are determined to be part of the face region are used in computing the average gray level; and

wherein in the step of computing the standard deviation, only the pixels that are determined to be part of the face region are used in computing the standard deviation.

7.   The method of claim 6, wherein the step of determining whether a pixel is part of the face region includes determining whether the pixel is a color within a predetermined set of colors.

8.   A system for illuminant compensation of an image including a face region comprising:

a memory; and

a processor;

wherein the memory stores a program that is operative with the processor to perform the following steps:

determining a surface fitting based on the face region for the image;

generating an illuminant corrected image using the surface fitting and the image; and

normalizing the image.

9.   The system of claim 8, wherein the image includes a plurality of pixels, each having a color, and wherein the step of determining the surface fitting includes the substeps of:

determining for each pixel whether the pixel's color is within a predetermined set of colors;

determining the pixel to be part of the face region if it is determined that it is within the predetermined set of colors;

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determining a surface fitting for the image, wherein the surface fitting is determined using only the pixels that were determined to be part of the face region.

10. The system of claim 9, wherein the substeps of determining whether the pixel's color is within a predetermined set of colors includes determining if the pixel's color is a skin color.

11. The system of claim 8, wherein in the step of generating the illuminant corrected image, the illuminant corrected image is generated by subtracting the surface fitting from the image.

12. The system of claim 8, wherein the image includes a plurality of pixels each having a gray level, and wherein the step of normalizing the image, comprises the substeps of:

computing an average gray level for the plurality of pixels in the image;

computing a standard deviation of the gray level for the plurality of pixels in the image; and

transforming the gray level for each pixel of the plurality of pixels to a gray level between a predetermined range using the computed average gray level and the computed standard deviation.

13. The system of claim 12, wherein the step of normalizing the image further comprises the substeps of:

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determining for each of the plurality of pixels whether the pixel is part of the face region in the image;

wherein in the step of computing the average gray level for the plurality of pixels, only the pixels that are determined to be part of the face region are used in computing the average gray level; and

wherein in the step of computing the standard deviation, only the pixels that are determined to be part of the face region are used in computing the standard deviation.

14. The system of claim 13, wherein the step of determining whether a pixel is part of the face region includes determining whether the pixel is a color within a predetermined set of colors.

15. A computer readable medium storing a program for illuminant compensation of an image including a face region, wherein the program is operative with a processor to perform a method comprising the steps of

determining a surface fitting based on the face region for the image;

generating an illuminant corrected image using the surface fitting and the image; and

normalizing the image.

16. The computer readable medium of claim 15, wherein the image includes a plurality of pixels, each having a color, and wherein the step of determining the surface fitting includes the substeps of:

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determining for each pixel whether the pixel's color is within a predetermined set of colors;

determining the pixel to be part of the face region if it is determined that the pixel's color is within a predetermined set of colors; and

determining a surface fitting for the image, wherein the surface fitting is determined using only the pixels that were determined to be part of the face region.

17. The computer readable medium of claim 16, wherein the substep of determining whether the pixel's color is within a predetermined range includes determining if the pixel's color is a skin color.

18. The computer readable medium of claim 15, wherein in the step of generating the illuminant corrected image, the illuminant corrected image is generated by subtracting the surface fitting from the image.

19. The computer readable medium of claim 15, wherein the image includes a plurality of pixels each having a gray level, and wherein the step of normalizing the image, comprises the substeps of:

computing an average gray level for the plurality of pixels in the image;

computing a standard deviation of the gray level for the plurality of pixels in the image; and

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transforming the gray level for each pixel of the plurality of pixels to a gray level between a predetermined range using the computed average gray level and the computed standard deviation.

20.   The computer readable medium of claim 19, wherein the step of normalizing the image further comprises the substeps of:

determining for each of the plurality of pixels whether the pixel is part of the face region in the image;

wherein in the step of computing the average gray level for the plurality of pixels, only the pixels that are determined to be part of the face region are used in computing the average gray level; and

wherein in the step of computing the standard deviation, only the pixels that are determined to be part of the face region are used in computing the standard deviation.

21.   The computer readable medium of claim 20, wherein the step of determining whether a pixel is part of the face region includes determining whether the pixel is a color within a predetermined set of colors.

22.   A system for illuminant compensation of an image including a face region comprising:

means for determining a surface fitting based on the face region for the image;

means for generating an illuminant corrected image using the surface fitting and the image; and

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means for normalizing the image.

23.   A method for determining a surface fitting for an image that includes a plurality of pixels each having a color, and wherein the image includes a face region, comprising the steps of:

determining for each pixel whether the pixel's color is within a predetermined set of colors;

determining the pixel to be part of the face region if it is determined that the pixel's color is within the predetermined set of colors; and

determining a surface fitting for the image, wherein the surface fitting is determined using only the pixels that were determined to be part of the face region.

24.   A system for determining a surface fitting for an image that includes a plurality of pixels each having a color, and wherein the image includes a face region, comprising:

a memory; and

a processor;

wherein the memory stores a program that is operative with a processor to perform a method comprising the steps of:

determining for each pixel whether the pixel's color is within a predetermined set of colors;

determining the pixel to be part of the face region if it is determined that the pixel's color is within the predetermined set of colors; and

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determining a surface fitting for the image, wherein the surface fitting is determined using only the pixels that were determined to be part of the face region.

25. A computer readable medium storing a program that is operative with a processor to perform method for determining a surface fitting for an image that includes a plurality of pixels each having a color, and wherein the image includes a face region, comprising the steps of:

determining for each pixel whether the pixel's color is within a predetermined set of colors;

determining the pixel to be part of the face region if it is determined that the pixel's color is within the predetermined set of colors; and

determining a surface fitting for the image, wherein the surface fitting is determined using only the pixels that were determined to be part of the face region.

26. A system for determining a surface fitting for an image that includes a plurality of pixels each having a color, and wherein the image includes a face region, comprising:

means for determining for each pixel whether the pixel's color is within a predetermined set of colors;

means for determining the pixel to be part of the face region if it is determined that the pixel's color is within the predetermined set of colors; and

means for determining a surface fitting for the image, wherein the surface fitting is determined using only the pixels that were determined to be part of the face region.

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27. A method for image normalization of an image that includes a plurality of pixels each having a gray level, comprising the steps of:

computing an average gray level for the plurality of pixels in the image;

computing a standard deviation of the gray level for the plurality of pixels in the image; and

transforming the gray level for each pixel of the plurality of pixels to a gray level between a predetermined range using the computed average gray level and the computed standard deviation.

28. The method of claim 27, further comprising:

determining for each of the plurality of pixels whether the pixel is part of a face region in the image;

wherein in the step of computing the average gray level for the plurality of pixels, only the pixels that are determined to be part of the face region are used in computing the average gray level; and

wherein in the step of computing the standard deviation, only the pixels that are determined to be part of the face region are used in computing the standard deviation.

29. The method of claim 28, wherein the step of determining whether a pixel is part of the face region includes determining whether the pixel has a skin color.

30. A system for image normalization of an image that includes a plurality of pixels each having a gray level, comprising:

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a memory; and

a processor;

wherein the memory stores a program that is operative with a processor to perform a method comprising the steps of:

computing an average gray level for the plurality of pixels in the image;

computing a standard deviation of the gray level for the plurality of pixels in the image; and

transforming the gray level for each pixel of the plurality of pixels to a gray level between a predetermined range using the computed average gray level and the computed standard deviation.

31. The system of claim 30, wherein the method further comprises the steps of:

determining for each of the plurality of pixels whether the pixel is part of a face region in the image;

wherein in the step of computing the average gray level for the plurality of pixels, only the pixels that are determined to be part of the face region are used in computing the average gray level; and

wherein in the step of computing the standard deviation, only the pixels that are determined to be part of the face region are used in computing the standard deviation.

32. The system of claim 31, wherein the step of determining whether a pixel is part of the face region includes determining whether the pixel is a color within the predetermined set of colors.

33.   A computer readable medium storing a program that is operative with a

processor to perform a method for image normalization of an image that includes a

plurality of pixels each having a gray level, comprising the steps of:

computing an average gray level for the plurality of pixels in the image;

computing a standard deviation of the gray level for the plurality of pixels in the

image; and

transforming the gray level for each pixel of the plurality of pixels to a gray level

between a predetermined range using the computed average gray level and the

computed standard deviation.

34.   The computer readable medium of claim 33, wherein the method further

comprises the step of:

determining for each of the plurality of pixels whether the pixel is part of a face

region in the image;

wherein in the step of computing the average gray level for the plurality of pixels,

only the pixels that are determined to be part of the face region are used in computing

the average gray level; and

wherein in the step of computing the standard deviation, only the pixels that are

determined to be part of the face region are used in computing the standard deviation.

35.   The computer readable medium of claim 34, wherein the step of determining

whether a pixel is part of the face region includes determining whether the pixel's color

is within a predetermined set of colors.

36.   A system for image normalization of an image that includes a plurality of pixels each having a gray level, comprising:

means for computing an average gray level for the plurality of pixels in the image;

means for computing a standard deviation of the gray level for the plurality of pixels in the image; and

means for transforming the gray level for each pixel of the plurality of pixels to a gray level between a predetermined range using the computed average gray level and the computed standard deviation.